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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/090,954

03/05/2002

Fumihiko Kato

FPM-02901

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26339

7590

02/25/2004

PATENT GROUP

CHOATE, HALL & STEWART

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BOSTON, MA 02109

EXAMINER

PIZIALI, JEFFREY J

ART UNIT

PAPER NUMBER

2673

DATE MAILED: 02/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,954

Applicant(s)

KATO, FUMIHIKO

Examiner

Jeff Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because reference numeral "10" in Fig. 2 has a typographical error -- whereby "LCD CONTROLL UNIT" should be changed to "LCD CONTROL UNIT." A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference numerals not mentioned in the description: 201, 211, and 241 (in Fig. 3); and 401, 402, 411, 412, 421, A31, and A32 (in Fig. 5). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference numerals in the

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description, are required in reply to the Office action to avoid abandonment of the application.

The objection to the drawings will not be held in abeyance.

5. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 3-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Tamai et al. (US 6,160,533).

Regarding claim 1, Tamai discloses an LCD control unit for driving an LCD panel in an LCD device, the LCD control unit comprising: a signal controller [Fig. 1; 39] for generating a voltage address signal [Fig. 4; LS] and a polarity control signal [Fig. 4; POLARITY INVERSION] (see Column 14, Line 27 - Column 15, Line 34); a voltage generator block [Fig. 4; 62] for generating a plurality of (n) γ -voltage levels [Fig. 4; AS1-8] and a plurality of (m) Vcom-voltage levels [Fig. 1; Q] based on the voltage address signal, a voltage selecting block [Fig. 4; 63] for selecting a specified number of the γ -voltage levels and one of the Vcom-voltage

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levels based on the polarity control signal to output the specified number of γ -correction voltages and a Vcom voltage; and an LCD driver [Fig. 1; 37] for generating a set of display data signals [Fig. 1; O1-ON] based on a set of external data signals [Fig. 4; D0-D2], the LCD driver including a γ -correction section [Fig. 14; 37b] for correcting voltages of the display data signals based on the specified number of γ -correction voltages (see Column 16, Line 14 - Column 17, Line 15 and Column 23, Lines 16-32).

Regarding claim 3, Tamai discloses the voltage generator block includes a resistor string [Fig. 4; 62] for generating $n \times L$ voltage levels, n first decoders [Fig. 14; DE1-DEN] for selecting [Fig. 14; ASW1-ASWN] the n γ -voltage levels [Fig. 14; 42a & 42b] from the $n \times L$ voltage levels based the voltage address signal, and m second decoders [Fig. 15; DEi] for selecting the m Vcom-voltage levels [Fig. 15; 42] from the $n \times L$ voltage levels based on the voltage address signal, given number L being an integer (see Column 23, Line 16 - Column 24, Line 35).

Regarding claim 4, Tamai discloses the specified number of γ -correction voltages are a pair of γ -correction voltages [Figs. 7 & 14; 42a & 42b] (see Column 18, Lines 40-46).

Regarding claim 5, Tamai discloses the voltage selecting block alternately selects the pair of γ -correction voltages having a positive polarity and the pair of γ -correction voltages having a negative polarity, with respect to the Vcom voltage (see Column 16, Lines 48-63).

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Regarding claim 6, Tamai discloses the voltage generator block includes a resistor string [Fig. 4; 62] for generating a plurality of voltage levels, a decoder [Fig. 14; DE1-DEN] for decoding the voltage address signal, and a selector [Fig. 14; ASW1-ASWN] for selecting one of the γ -voltage levels or one of the Vcom voltage levels (see Column 23, Line 16 - Column 24, Line 35).

Regarding claim 7, Tamai discloses the LCD control unit is a one-chip IC (see Column 5, Lines 24-41).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai et al. (US 6,160,533) in view of Gormish (US 5,910,796).

Regarding claim 2, Tamai does not expressly disclose the voltage address signal and the polarity control signal are generated based on a software as time series signals. However, Gormish discloses software controlling and setting gamma correction signals (see Column 1, Lines 12-46). Tamai and Gormish are analogous art because they are from the shared field of gamma correcting display devices. Therefore, it would have been obvious to one skilled in the

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art to substitute Gormish's software control in the place of Tamai's hardware control, so as to provide a convenient means of gamma correcting the display for the user.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Williams (US 4,427,978), Erhart et al. (US 5,572,211), Bassetti et al. (US 5,757,338), Sugiyama (US 5,867,137), Gallavan (US 5,998,985), Matsueda et al. (US 6,380,917), Choi et al. (US 6,466,191), and Hashimoto (US 6,570,560) are cited to further evidence the state of the art pertaining to LCD control units.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (703) 305-8382. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.P.

20 February 2004



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